Life Satisfaction in Dyslexics: An Investigation into the Influence of Self-Concept and Self Esteem

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Abstract

The affects of dyslexia on one's self-concept and self-esteem have been well documented in an academic population. The current study investigated if the trends observed in previous literature are generalisable to a non-academic, adult, dyslexic sample. The study used a dyslexic experimental group that was matched with a control group for age, sex and socioeconomic status. The study investigated the difference of satisfaction with life, positive and/ or negative affect on mood, self-esteem and personality, between a dyslexic and a non-dyslexic population and if there was a difference between gender and dyslexia for these factors. The results showed the two groups are similar in response to satisfaction with life positive and negative affect, self-esteem and three of the five facets of personality measured. There was a significant difference between the two groups for extroversion and emotional stability. The findings from the current study supports that dyslexics' experience more extroversion and emotional stability as facets in their personality.

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1. Introduction

1.1 Introduction

Estimates claim that between 4% and 10% of the population exhibit specific learning disability of dyslexia, in the United Kingdom. This percentage roughly translates as 4-6 million adults who exhibit dyslexic tendencies (Scott, 2004). Since its identification, psychologists have deliberated about the existence, the potential causes and the core symptoms of dyslexia (Frith, 1999). Despite heated debate surrounding, and research into, the behavioural, socio-biological and cognitive causes of dyslexia, there is general agreement in psychology that the diagnosis of dyslexia has an impact on a person's academic self-esteem and self-image (Burden, 2005). Evidence for the underlying cognitive impairments and consequent literacy difficulties associated with dyslexia persisting into adult life is increasing (Snowling, 2000). However, there has been little focus on how the diagnosis or the 'label' of dyslexia affects a person's global self-image, self-concept or self-esteem in adult life (Scott, 2004).

1.2 Definition and History of Dyslexia

The term 'dyslexic' is used to refer to those who have a specific learning disability. They perform less well then their cognitively matched peers - as established by cognitive assessment, such as the Wechsler Intelligence Scale for Children: Fourth Edition (WISC-IV), (as reported by Scott, 2004; Snowling, 2000). Usually those who are deemed dyslexic are diagnosed with this condition by an educational psychologist prior to their fourteenth birthday (Scott, 2004; Snowling, 2000). Much of research in this area has been carried out in the United States, with children and adults identified as being

'Learning Disabled' (LD; Riddick, Sterling, Farmer & Morgan, 1999; Burden, 2008). The term "LD" is more generic than that of dyslexia, and in the United Kingdom and Ireland it encompasses not only those who would be considered to have dyslexia, but also those with other learning difficulties (Riddick et al., 1999). The assumption will be made for the literature review that such populations roughly equate to those in the UK and elsewhere who are diagnosed with dyslexia, despite the inherent dangers in adopting such an approach. However, the term 'LD' may encompass other co-morbid learning disabling disorders, such as attention deficit disorder, which could be more influential to the diagnosis than just dyslexia (Burden, 2008). Therefore, one must exercise extreme caution when assuming conclusions from studies that implement this terminology (Burden, 2008).

Conceptually, the use of the term 'dyslexia' has had a turbulent past. Establishing its definition has been notoriously problematic, thus creating great difficulty examining and understanding the cause and manifestation of the disability (Frith, 1999; Burden, 2005). After decades of attempts to define the condition, official recognition was aided through its definition within the Disability Discrimination Act 1995 (Dale & Taylor, 2001). In terms of establishing an underlying cause, much current and recent research suggests that there is strong evidence pointing to phonological deficits being critical Snowling (2000) postulates that dyslexia should be defined as a core phonological deficiency, as phonological deficits underpin the major cognitive behavioural deficits which dyslexics exhibit For instance, the key characteristics or behaviours of dyslexia include a wide variety of phonologically implicated deficits: a delay or deficit in understanding letter-sound correspondences; verbal short-term memory and naming deficits (Hulme, Newton, Cowan Stuart & Brown, 1999); a delay in learning to read (Frith, 1999); poor spelling (Snowling & Hulme, 1989); difficulty generating

written language (Snowling, 2000) and initial difficulty recognising rhyme (Tallal, 1980). Research dominating the field of dyslexia maintains that these listed dyslexic behavioural deficits and difficulties appear to be causally linked with an underlying difficulty with phonological phoneme to grapheme acquisition (Funnell & Stuart, 1995).

However, many researchers contest the phonological deficits theory as being the underlying developmental problem. The phonological deficits theory, postulated by Snowling (2000), does not fully embrace all aetiologies and behaviours of dyslexia (Ramus, Rosen, Dakin, Day, Castellote, White & Frith, 2003). Indeed, some other key characteristics of dyslexia are not directly linked to phonological processing at all: poor short-term memory; poor mental arithmetic; difficulty in learning labels; difficulty in learning sequences; slowness in learning text or verbal information; and a subtle difference in form and function of some areas of the brain (Ramus et al. 2003; Stein, 2001). Opposition to phonological deficits theory proposes that the manifestation of dyslexic difficulty is due to magnocellular and or cerebellar implications located in the brain (Ramus et al., 2003; Stein, 2001; Tallal, 1980). However, theoretical discrepancies aside, most research investigating these difficulties experienced by dyslexics focuses on academic experiences, and neglects the difficulty that these impaired functions manifest in day-to-day living, and the impact they have on dyslexic sufferers (Passé, 2006).

While much research into dyslexia focuses on issues of causation and precise behavioural description, there has been less research addressing the issue of the effect that being given the 'label' of dyslexia might have on an individual. The current thesis aims to address precisely this.

Riddick et al. (1999) began to examine how the label of dyslexia contributes to interventions and assistance given to those who suffer developmental learning difficulties (Riddick et al., 1999). In some cases, it has been found that the diagnosis of dyslexia has been known to be empowering, as it feels like the "beginning of a process of significant change" (Morgan & Klein, 2000, p. 40). Similarly, McDougall (2001) found that over 70% of a sample of dyslexic adolescents felt that a diagnosis had a positive effect on them.

As well as there being an effect of being given a label, it would seem that timing of diagnosis has a critical effect. Scott (2004) comes to similar conclusions and proposes that early detection and diagnosis is best. As she maintained, from a counselling perspective, that it spares the individual some of the humiliation and trauma that they experience prior to detection. It allows for early intervention of the difficulties and it prevents some of the tension and frustration exhibited by non-diagnosed dyslexics' exhibit in early schooling. Morgan and Klein (2000; Scott, 2004, p. 240) support this, as they propose that late detection and diagnosis can lead to "deep scars" in dyslexics. From qualitative studies interviewing college students diagnosed with specific learning disabilities, they found that dyslexics who obtain late diagnosis in life can find some resentment to authorities who failed to detect and help them earlier in life and learned helplessness. It can also cause introverted behaviour in late schooling and feel discriminated against. These observations predict that dyslexics shall differ from the general population for emotional and behavioural difficulties (Scott, 2004).

Maughan (1994) established that many dyslexics have encountered detrimental emotional experiences in early schooling that contribute to negative self-image prior to dyslexia detection. However, most adults do not have the benefit of childhood diagnosis and find out late in life. While these

studies do not measure directly the effect of timing of diagnosis they propose that the later the diagnosis of the condition, the greater the detrimental effect (Scott, 2004; Morgan & Klein, 2000; Maughan, 1994).

There has also been some consideration of what the best use of resources might be once a diagnosis has been made. Maughan considered whether literacy remediation strategies or strategic help in coping with emotional aspects of dyslexia were most beneficial. As a result of his findings, Maughan (1994) suggests that for many cases of poor school achievers, specifically those who are poor readers, it would be more beneficial to shift the focus from literacy attainment of these children, to more detailed assessment and better support for emotional needs. Riddick and colleagues (1999) have supported this shift in emphasis also. Riddick et al. (1999) found that adult dyslexic students are more anxious and have lower academic self-esteem than their cognitively matched peers and that intervention and assistance programmes should focus on the dyslexics' perception of their academic identity. These findings could be generalisable to a non-academic demographic.

A self-report study conducted by Gerber, Schnieders, Paradise, Reiff, Ginsberg and Popp (1990) suggested that people with learning disabilities find the emotional difficulties are persistent throughout their adult life. One hundred and thirty three, of a one hundred and sixty sample, adults with learning disabilities claimed that the difficulties that they encountered in school were the same as those encountered in adult life. The authors suggest that the reported worsening of emotional difficulties by 25% in adulthood (in comparison with childhood) was due to increasing work demands in this sphere of life (Gerber et al., 1990; Riddick et al., 1999).

The present study examined the potential relationships between dyslexia and other factors: satisfaction with life, positive and negative affect (mood), self-esteem and finally, personality. The following section, then, will outline the previous research in these areas.

1.2.1 Diagnosis of Dyslexia

The purpose of diagnosing dyslexia is to ascertain whether an individual's academic difficulties are discrepant with what would be expected from their general cognitive profile. It can also help establish how an individual performs compared to their peers in specific areas of academic skill, such as spelling or arithmetic (Scott, 2004). In the United Kingdom and Ireland, dyslexia is assessed and usually diagnosed by clinical and educational psychologists; this may involve using evidence from a number of different sources, for example a speech therapist, a teacher or a parent. Assessment may be obtained by the local education authority via the school's psychological services or, privately, through an agency specialising in such assessments (e.g. the Dyslexic Association Ireland or Dyslexia Scotland) or an independent educational psychologist (Scott, 2004).

Usually a battery of tests is administered during the assessment to analyse, firstly, the extent to which the student is affected by inherent problems often suffered by dyslexics, and secondly, their level of ability in specific areas. The main tool of diagnosis for both adults and children is the Wechsler battery of Intelligence Quotient (IQ) tests, which measure the individuals' underlying ability. For children, the Wechsler Intelligence Scale for Children Third (WISC-III) is the most common test for the diagnosis of dyslexia. Adults usually attain diagnosis from the adult form of this test, the Wechsler Intelligence Scale for Adults Fourth Edition (WISA-IV). These scales, as well

as tests of educational attainment and diagnostic skills testing by psychologists, assist diagnosis (Scott, 2004). However, for adults there are also self-assessment packages available from appropriate bodies, such as the NHS or British Dyslexic Association (Scott, 2004).

1.3 Definition of Self-Concept and Self-Esteem

Self-concept refers to one's concept or belief of oneself, in as complete and thorough a description as is possible for one to give. Self-concept emphasises the evaluative judgements that one makes in life (Rogers, 1995). Self-esteem, in contrast, is the degree to which one values oneself (Fennell, 1999). Self-esteem is defined as the extent to which a person considers that their present self matches up to their ideal self (Coopersmith, 1967; Fennell, 1999; Riddick et al., 1999). Contrary to some notions from popular psychology, self-esteem refers to the full dimension of what a person considers to be ideal for themselves, and the degree of self-esteem they consider themselves to have is seen as being either high or low (Rosenberg, 1965). Fennell (1999) maintained that self-concept, self-esteem and personality all contribute to coping strategies which could benefit those who need them. She also suggests that having a low self-esteem could be detrimental to a person's life, in particular to their life experience and achievements. Further to this, she reports that low self-esteem can alter one's thought processes, behaviour, emotions, relationships, self-care and body state.

Empirical evidence has acknowledged the importance of both cognitive and affective domains in explaining individual differences in academic achievement (Cooley & Ayres, 1988). Previous findings suggest that dyslexic adults, especially those in high-literacy-demand situations, such as further education, still encounter a range of life-affecting literacy difficulties (Riddick

et al., 1999). Whether or not this affects self-esteem is yet to be established, as findings from previous studies have been mixed (Passé, 2006). Researchers' interest in the self-esteem of children with dyslexia has given rise to increased concern that their academic failure could greatly affect the development of their global self-esteem and self-concept (Riddick, 1996).

Global self-esteem refers to the individual's positive or negative attitude toward their self as a totality (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). Low global self-esteem, specifically in scholastic competence and social acceptance, has been linked with social, emotional and behavioural difficulties (Polychroni, Koukoura & Anagnostou, 2006). This effect could have great consequences for adult life (Cooley & Ayres, 1988). Riddick (1996) found that mothers report that their dyslexic children exhibit low self-esteem in an academic setting. However, little research has been reported regarding whether this is also the case in non-academic settings (Polychroni, Koukoura & Anagnostou, 2006).

The relationship between self-esteem and mood with dyslexia have not been easy to establish, in part due to methodological considerations (Polychroni, Koukoura & Anagnostou, 2006) as many measures are ungeneralisable and do not apply to the general demographic. Also, most studies in this area take a qualitative approach, only investigating a small number of individual participants, and thus resulting in studies that are unsuitable for generalisations to larger populations (Passé, 2006). There is great criticism of the paucity of research on dyslexic adults specifically that the samples used are almost entirely taken from the academic realm (Scott, 2004).

1.3.1 Dyslexics who Exhibit Low Self-Esteem

In Morgan's (1997, cited by Passé, 2006) study of delinquent/ criminal dyslexics, he found that when dyslexic children failed to keep up in school, their self-esteem dropped as they began to question their academic abilities. This has been found to affect the development of their global self-esteem, and this effect transfers into adulthood (Scott, 2004). Riddick et al., (1999) and Reid and Peer (2001, p.5) suggest that "frustration" experienced in the classroom by dyslexics often leads to anti-social or deviant behaviour among dyslexics with low self-esteem. This frustration affects personality development, influencing emotional stability and the development of agreeableness as it causes negative self-image and introversion of emotional states as well as excessive personal doubt (Reid and Peer, 2001). From interviews with children with dyslexia, Reid and Peer (2001) supported this finding by mothers' reporting the same trends of development in their children. Riddick and colleagues (1999) suggests that frustration very often leads to anti-social or deviant behaviour among dyslexics with low self-esteem, damaging self-worth and somewhat altering self-perceptions of ability , which may lead to higher frequencies of paranoid and avoidant personality disorders compared to non-dyslexics (Jensen, Lindgren, Meurling, Ingvar & Levander, 1999). In addition, Jensen and associates (1999) found that 41% of there sixty three prison inmates were dyslexic; they also reported higher rates of anxiety, suspicion and introversion. Many qualitative studies suggest that both recognised and unrecognised dyslexics receiving insufficient help or inappropriate support can feel devalued at school, and often turn to deviance for recognition from peers (Riddick, 1996; Passé, 2006).

Low self-esteem can lead to poor or negative self-image, and such beliefs can become a self-fulfilling prophecy, as they lead to an expectance of failure

(Riddick, 1996; Passé, 2006). There are copious reports of dyslexic and learning disabled students being labelled as "thick, stupid or moronic", resulting in damaged self-concepts and low self-esteem (Scott, 2004). Once again, these studies of the effect of dyslexia or LD on self esteem take their sample from people within academia. Their aim is to specifically focus on academic achievement, and attempt to establish the impact of dyslexia on self-esteem in the realm of academia; an area in which LD or dyslexic students are of course most vulnerable (Scott, 2004).

Details of academic self-esteem are usually compared to a global self-esteem score, but sampling biases mean that the results are difficult to interpret. In studies of this sort, there is scope to see how personality facets could relate self-esteem between dyslexics and a non-dyslexic population.
It is noteworthy, that all of these studies focus on academic populations and little research has been focused on those who have completed or dropped out of education. This thesis aims to address just such populations.

1.3.2 Dyslexics who Exhibit High Self-Esteem

Dyslexic children who exhibit high academic self-esteem display more confidence, and will volunteer more answers or be more likely to try out new subjects or tasks than dyslexics with low self-esteem (Passé, 2006). Burden (2005) reflects that these high self-esteem students expect to succeed, and go on to attribute success to themselves or to their perceived ability and skill. From a number of semi-structured interviews conducted with self-perceived successful dyslexics adults, they considered themselves to be more tenacious, and perceive more satisfaction when they succeed, compared to their non-dyslexic peers (Peer & Reid, 2001)It has also been found that dyslexic teenagers with high self-esteem are more successful in both academic and

social environments compared to non-dyslexic teenagers with low self-esteem (Passé, 2006).

1.3.3 The Measurement of Self-Esteem

Burden (2008) suggests that the use of Rosenberg's self-esteem scales (1965) to measure self-esteem in correlational studies can actually tell us little about why any particular individual or group feels the way that they do about a certain field or endeavour. This is a perfectly legitimate concern. However, when one is trying to understand an individual's global self-perception as opposed to a dyslexic person's self-perception in their field of weakness (such as academia), sometimes it is important to dissociate measures from their 'considered weakness' and consider them as a whole (Rogers, 1995). In addition, Burden (2008, p.6 suggests that although many studies hypothesise that "having learning difficulties of a dyslexic nature leads to low self-esteem", we cannot assume that this is a *causal* relationship without evidence.

Burden's (2008) review suggests that one should move away from the idea of investigating global self-esteem or self-perception, and that research should be focusing on three things: dyslexics' perception of efficacy, whether they experience a sense of learned helplessness, and if they have an accurate insight into their learning attributions. Burden's rationale for this is to see if one can get over one's difficulties or not. This is a very valid observation about future possibilities of research, however the present study is concerned with how current dyslexics cope and overcome their disability and if they actually experience the self-esteem, mood and other issues implied by Burden (2008; 2005).

13.4 Academic Self-Esteem compared to Global Self-Esteem

Previous literature reports that children who have been diagnosed with dyslexia exhibit less favourable academic self-esteem than their academic peers (Riddick et al., 1999; Polychroni et al., 2006). In some studies of global self-esteem, dyslexics exhibit similar scores to their cognitive and academic peers (Riddick, Farmer & Sterling, 1997). The Dyslexia Identity Scale (DIS) and the Myself-as-a-Learner Scale (MALS) look at these variables specifically within the dyslexic population (Burden, 2005). However, as these measures are inapplicable to a non-dyslexic population, there are unsuitable for the current study, and so the current study shall be implementing a global self-esteem measure.

1.4 Previous Research on Dyslexia and Life Satisfaction

The literature shows that, to date, there has been no research directly addressing the issue of life satisfaction in dyslexic populations. As dyslexia and LD are relatively new terms, the majority of the literature focuses on populations comprised of young academics (or students) or children with no specific learning difficulties. This leaves the question of how dyslexics in a general population view their satisfaction with life unanswered. Given, however, the depressed measures of other satisfaction related factors such as self-esteem in the dyslexic populations, the prediction would be that the dyslexic population would show a reduced score on measures of satisfaction with life.

1.5 Dyslexia And Personality

Not much research has focused on the individual differences in personality factors between dyslexic and non-dyslexic populations (Scott, 2004). The majority of research is heavily genetically based work (Mc Loughlin, Leather & Stringer, 2002). Reiff, Gerber and Ginsberg (1997; Riddick et al., 1999) found that successful dyslexics considered persistence and stubbornness to be personality assets. Mc Loughlin and colleagues (2002, cited by Passé, 2006) also found hard work and determination to be underlying successful factors in academic success. All these factors contribute to coping, and they may also be affected by personality facets (Scott, 2004), or 'conscientious personality factors' (Saucier, 1994). These findings suggest that it may be the case that dyslexics obtain higher scores for conscientiousness than the general population.

1.5.1 Dyslexic Personality and Emotional Problems

Children who have learning disabilities (LD) are often reported to have poor motivation (Jensen, Lindgren, Meurling, Ingvar & Levander, 1999). This finding suggests that LD children may be more prone to emotional problems, which affect their development both in academia and in the social realm (Jensen et al., 1999). The authors also conclude that this impact on development can have consequences for personality facets, especially emotional stability factors.

Arising from these findings, one predicts to see a similar trend of results with a general population sample. Specifically extroversion and emotional stability

factors will be noticeably different between a non-dyslexic and a dyslexic group.

They noted from several investigations that examined a juvenile criminal population, they had made reported a high frequency of diagnosed dyslexics and people who suffer reading and writing disabilities in criminal populations. Jensen and colleagues (1999) ascertain that the dyslexic group of prison inmates who participated in their study exhibited high anxiety and difficulty in social interactions, which had increased to a pathological level in some people. In general, the dyslexic participants exhibited a higher rate of Anti Social Personality Disorder. They also expressed higher frequencies of paranoid and avoidant personality disorders than the non-dyslexic prison group.

One must note, however, that this study was carried out on a select population and is thus not generalisable to a greater general populace. They could not compare it to similar studies on a general population, as little or no published research on dyslexia and personality has been carried out.

1.5.2 Personality Differences between "Good versus Poor" Readers

However, Zimmerman and Allerand (1965) corroborated these findings in an academic setting. Seventy-two "poor readers" were paired with a control group of eighty-two 'good readers', and cognitively matched by age, sex and socioeconomic status. "Poor readers" were defined as those with average to above average intelligence but who performed badly in a reading grade placement. This is similar to the diagnosis of dyslexia used in the UK and Ireland. This could suggest that dyslexics will score highly for openness.

In this study, poor readers scored higher for anti social behaviour and "awareness of nervous systems". They also exhibited limited personal freedom, as well as minimal social skill and standards. Conversely, good readers rated themselves favourably for social adjustment, a sense of personal freedom and self-reliance, whereas poor readers felt a "strong dependency" on others (Zimmerman & Allerand, 1965, p. 29). Although this study is quite dated, there are relatively no studies on personality administered on those with dyslexia and/or specific learning disabilities, although there are eminent trends of findings of related individual variables (Burden, 2005).

As mentioned earlier with regard to personality factors that young students tend to exhibit, like frustration and negative self-esteem and self-image, there is a well-established, strong association between specific learning disabilities and juvenile delinquency (Jensen et al., 1999). Recent studies have demonstrated that more than half of young institutionalised delinquents have serious difficulties with written language (Svensson, Lundberg & Jacobson, 2001; Jensen et al., 1999). Jensen and colleagues (1999) established that although the juvenile delinquents demonstrated a high percentage of dyslexic tendencies, other aspects such as socioeconomic factors, limited school attendance, poor/low self-esteem and home problems also contributed to their literacy problems, along with the more obvious dyslexia. This is an interesting idea for a possible intervention process.

1.5.3 Dyslexic Personalities and Depression

Numerous studies report that depression is a frequent complication in dyslexia (Scott, 2004; Burden, 2005; Passé, 2006).Although most dyslexics are not clinically depressed, they report a higher risk of "intense emotional feelings of pain and sorrow" (Passé, 2006, p. 260). Evidence suggests that

dyslexics commonly manifest low self-esteem, which might explain why many dyslexics, especially females, internalise sorrow and pain, possibly contributing to an introverted personality or behaviour.

Alternatively, depression, or depressive moods, experienced by school-aged children may contribute to their being more active in order to cover up painful feelings, thus developing an extroverted element to their personality (Passé, 2006). This is also reflected in many qualitative reports which suggest that individual children who have unaddressed dyslexia tend to develop extroverted personalities to compensate for their lack of academic ability (Maughan, 1994). Consequentially, Hughes and Dawson (1995; cited by Burden, 2008) revealed a typical pattern of failure at school leading to a long-lasting feeling of negative self-worth and low perceptions of personal intelligence.

Arising from the trend of depression and personality, a meta-analysis on the prevalence of depression in people with learning disabilities showed that in 88% of the LD studies reviewed by Sideridis (2006), levels of depression were found to be higher than the typical normative rate of 10% to 15%. Implications of depression for self-concept, self-esteem and school functioning are tremendous (Sideridis, 2006). As there is a well established link of dyslexia or Specific Learning Disabilities (SLD) and depression, negative affectivity has been considered responsible for the depression-proneness of performance-orientated individuals (Sideridis, 2006). However, no research has established if the general dyslexic population, as opposed to an academic demographic, experiences more negative affectivity than the norm. From an academic setting, the negative affect experienced by this demographic can result in any potential 'achievement situation' being viewed as a test of their ability, and eventually an evaluation of their self-worth is made (Sideridis, 2006). This

increases anxiety and thus influences appraisal and performance. However, can we apply this to a non-academic sample population? As achievement situations in most studies have been assessed by an academic level (for example, exams or tests), do these reflect the more general or global achievement situations that an individual meets in their daily life?

1.6 Dyslexia and other Factors

There have been other factors that have been noted to influence the dyslexic self-concept or the dyslexic identity, such as age, gender and socioeconomic issues (Riddick, 2000).

1.6.1 Gender, Age and Socio-economic Issues.

Research on gender differences and dyslexia provides conflicting results (Kling, Hyde, Showers & Buswell, 1999). In the past, gender was thought to affect dyslexics' perception of self, with boys scoring higher than girls on this type of measure (Riddick, 1996). However, current literature does not align with this view. Gans, Kenny and Ghany (2003) studied fifty specific learning disabled students, just over half being female, comparing their self concept to those without specific learning disabilities and, contrary to their hypothesis, they found no gender differences across self-concept and self-esteem scores for this experimental group.

Contrary to this finding, Passé (2006) found that coping behaviours differed between teenage dyslexic males and females, with females utilising more emotional and avoidance-based coping, resulting in moderate depression and lower general and academic self-esteem than their male peers. Gans et al. (2003) noted that although gender did not affect academic or global self-

concept in their study, it did have an impact on behaviour. They reported that their female population exhibited "better behaviour" than their male population, but, acknowledging this to be a very general statement; they suggested this finding should be explored further (Gans et al., 2003, p. 292). The sample population in this study was not as extensive as Passé's (2006); Passé collected over 817 participants for factor analysis, with 49% of them being female, whereas Gans et al. recruited a very small population in comparison (50 participants in total) and they investigated an "LD" sample, which may not be directly comparable to a dyslexic sample.

Age has a part to play in one's self concept and self-esteem (Coopersmith, 1967). In addition, as dyslexia is a developmental disorder that occurs across the life span (Scott, 2004), one could postulate that age may affect the variables that impact on one's self-concept and self-esteem. As dyslexia is a new and controversial term, many studies neglect an older population that may experience dyslexic disabilities. Burden postulated that social and emotional problems among this demographic decreases as they mature (Burden, 2008; Burden, 2005). Riddick (1996) suggests that these problems decrease with age as they are closely related to childhood experiences. Some research suggests that females internalise problems, while males externalise difficulties, which affects how a dyslexic individual develops coping stratagems and personality factors to support themselves (Willcutt & Pennington, 2000). However, the area of age and dyslexia as a developmental disorder is greatly under researched (Scott, 2004) and one can only suppose the effects age has on dyslexia, stress and anxiety, developmentally.

Researchers also report that socio-economic status greatly affects satisfaction with life and self-esteem (Burden, 2005; Scott, 2004; Gans et al., 2001; Svensson, Lundberg & Jacobson, 2001). They suggest that differences in socio-

economic variables influence the diagnosis, interception and treatment of the specific disabilities that cause children problems (Gans et al., 2003). Thus those people who are diagnosed with dyslexia tend to be of a higher socio-economic status than the average, having more access to these assistances (Gans et al., 2003). Others have proposed that there is a great stigma attached to dyslexia as a diagnosis (Burden, 2005; Scott, 2004; Riddick et al, 1999). Older generations treat dyslexia as being a mythical construct. (Riddick, 2000) due to its lack of historical foundation and agreement in the psychological field. Scott maintains that older adults usually get diagnosed for job purposes or through curiosity. However, this does not facilitate the dyslexic sufferer from their difficulties but it does offer explanations of their disability. Mc Loughlin (2002) suggests that this can further discriminate suffers in the workplace and prevents them from succeeding.

In society, the term is met with mixed emotions, however one thing that is clearly depicted through social mediums is that dyslexia is a middle-class difficulty (Scott, 2004). Dyslexia has been referred to in the media as a "middle class way to hide stupidity" (Chambers, 2007, p.1).

This perception, advertised by the media, has greatly affected the self-image and self-concept of diagnosed dyslexics, leading inevitably to an effect on their self-esteem (Scott, 2004) as previously mentioned. The main reason behind this "middle-class" stigma is the expense of diagnosis and treatment, and lack of access to education about dyslexia (Reid & Peer, 2001). Unfortunately, only those who have these assets acquire diagnosis and assistance, leaving those who lack resources marginalised (Scott, 2004).

1.6.2 Dyslexia Mood and Depression.

As mentioned before dyslexia negative mood and depression are closely linked. The majority of research suggests that dyslexics exhibit higher depressive personality tendencies than their non-dyslexic counterparts (Scott, 2004) Negative mood (negative affect) is said to greatly affect working memory, academic function and self-worth (Burden, 2008; Gans et al., 2003). Yasutake and Bryan (1995; cited by Riddick et al., 1999) propose that children with LDs experience more negative thoughts and affects than their cognitively matched non-LD peers. Dyslexia is also closely linked to depression (Scott, 2004). From the literature, an important point to note is that depressed mood seems to be more closely associated with *perceptions* of difficulties than with measured literacy skills (Riddick et al., 1999). Gans and colleagues (2003) found that children diagnosed with dyslexia are consistently described as being depressed or withdrawn in the classroom.

This finding is mirrored by Riddick and colleagues' (1999) teenage population. They exhibited high scores on scales measuring depression, learned helplessness and irrational thoughts. These scores are assumed to have been contributed to by high levels of anxiety, and they can then lead to greater self-blame. Female dyslexics have consistently reported more depressive moods and suicidal thoughts than males. This is thought to create greater difficulties for females, as they are unable to fully allocate their mental resources to a comprehension task, being preoccupied with worries and inner conflicts (Svensson, Lundberg & Jacobson, 2001). However, the prevalence of diagnosed dyslexia in females is less than that in males, and these impacts greatly on gender difference research (Burden, 2005).

1.7 Implications of Previous Studies

Firstly, akin to contemporary learning theory, previous literature has found a lack of agreement on the criteria used in identifying participants who suffer from Learning Disabilities or dyslexia (Polychroni et al., 2006). This creates validity discrepancies between studies. Another methodological difficulty is that most participants who are dyslexic are recruited from an academic setting (i.e. University or special school). Thus they typically have a higher academic self-concept as compared to participants in mainstream schools or those who do not enter further education, consistent with Social Comparison Theory (Passé, 2006; Riddick et al., 1999; Polychroni et al., 2006). Finally, since existing research on dyslexia typically has low participant numbers, it is generally gender biased, as dyslexia is more prevalent in males than females, and so gender proportions of experimental samples reflect this imbalance (Snowling, 2000). However, Scott (2004) suggests that due to the acknowledgement that girls and women internalise their difficulty, the diagnostic proportions are becoming more equal and that the female response to dyslexia will be better researched.

1.8 The Current Study

The aim of the current study is to see how previous findings from academic settings are generalisable to the population as a whole. It will investigate whether the lower ratings of self-esteem and life satisfaction which have been found in the academic dyslexic population are also reflected in sample population of non-academic dyslexics. The current study will also investigate whether self-esteem outcomes correlate with life satisfaction ratings, and how these interact with personality and mood of dyslexics and non-dyslexics.

1.9 Hypotheses

The hypotheses that shall be explored in this study are:

1. The dyslexic group will score significantly lower on ratings of life satisfaction than the control group.
2. The dyslexic group will score significantly lower on ratings of self-esteem than the control group. Note that as academic groups have notable low self-esteem, one expects the general population to exhibit this also.
3. The dyslexic group will score lower for positive affect than the control group and higher for negative affect.
4. There will be a significant difference between the control group and the dyslexic group for emotional stability and extroversion. Akin to previous literature, the dyslexic group will score higher for extroversion and lower for emotional stability.
5. Self-esteem scores will positively correlate with satisfaction with life scores and positive affect for both groups.
6. Increased age will have a significant positive impact on occupation, education and self-esteem.
7. There will be differences in gender scores for all variables.
8. There will be a correlation between elements of dyslexic personality scores (specifically extroversion and emotional stability scores), their self-esteem scores and their positive and negative affect scores. These will differ from the control groups.

2. Method

2.1 Design

2.1.1 Experimental Design

The current study used a between participants design. There were two independent groups: a dyslexic experimental group and a non-dyslexic control group. There were four levels of independent variables: age, sex, socioeconomic status and diagnosis of dyslexia. The dependent variables were satisfaction with life, self-esteem, positive or negative affect of mood, and various personality facets measured by the mini-marker. The mini-marker is a measure derived from the five factor model of personality (Saucier, 1994), and it gives a phenotypic personality description of surgency (extroversion), agreeableness, conscientiousness, emotional stability and intellect or openness.

All of the psychometric measures were selected for ease of comprehension, to lessen the experimental bias between the two groups' understanding of the experimental' procedure. An additional reason for selecting these particular measures is that a considerable number of previous studies suggest that depression questionnaires are can be leading (such as Burden's study that implemented the DIS (2005)), resulting in vulnerable populations reporting falsely higher levels of depression (Watson, Clarke & Tellegen, 1988). To avoid this, the current study is more subtly attempting to simply measure negative affect rather than depression. (Watson, Clarke & Tellegen, 1988).

2.2 Participants

The experimenter created a poster that explained the intentions of the study and included the contact details of the experimenter (See Appendix I). These posters were distributed in "Dyslexia Scotland" newsletters and displayed on the Edinburgh Council website, as well as in various other public places. In addition, the poster was displayed on the Dyslexic Association Ireland website (www.dyslexia.ie), as well as on the gum tree cyber- communities' websites for Cork, Dublin, Bristol, Edinburgh, Glasgow and London (www.gumtree.com). The dyslexic group are established by having been diagnosed by a credited educational psychologist using The WISC-III, or the WISA-IV. They also considered themselves dyslexic as they volunteered to do this experiment (Kaplan, Fein, Kramer, Delis & Morris, 1999).

Due to time constraints, a small sample was collected. Forty-four participants in total took part in this study. There were equal numbers of participants in the dyslexic group (*m=11, f=11*) as and the control group (*m*=12, f=10). Twenty participants were recruited electronically (by email) and twenty-four were collected in person (by telephone). By chance, an equal number of male and female dyslexics were collected for the experimental group. However, their cognitive peers were unbalanced gender wise. All dyslexic participants instigated first contact with the experimenter. All members of the dyslexic group had previously been diagnosed by a credited educational psychologist using The WISC-III, or the WISA-IV (Kaplin et al. 1999). They also obviously considered themselves to be dyslexic, having volunteered to do this experiment.

The dyslexic participants were recruited voluntarily. They obtained knowledge of the experiment by email and posters and contacted the

experimenter through email or telephone. The dyslexic participants then each nominated a friend or colleague to participate; a person who matched them in terms of age, sex and socio-economic status. If they were unable to do this, the experimenter found a control for them who matched most of the criteria. Informed consent was acquired from all participants and they were fully briefed about the intentions of the current study. All participants were satisfied with their debriefing, and following the completion of the study, they each received a condensed report of the anonymised global findings.

2.3 Materials

A cover sheet letter (see Appendix I) was given to each participant prior to their filling out the questionnaire. The cover sheet outlined the study's intentions, the participants' right to withdraw, and the fact that their anonymity would be maintained. It also contained the contact details of the researcher (see Appendix I). Each participant was invited to sign and date a declaration stating that he/she had read and fully understood the information presented regarding the experiment and its intentions. A payment confirmation slip was signed when the participant was paid for the voluntary service.

There were four psychometric scales used in this study, prefaced by a description sheet (refer to Appendices II to VI).

Thus the materials were:

- The socio-demographic questionnaire sheet (Appendix II), which establishes age, sex, gender, current occupation and socioeconomic status, as well as determining if the participant has been diagnosed as dyslexic.

- Satisfaction with Life Scales (SWLS), which that assesses the life satisfaction of the participant (Diener, Emmons, Larsen & Griffin, 1985). This can be seen in Appendix III.
- Positive/Negative Affect Scale (PANAS), which measures the person's positive of negative affect currently and consistently, in the past week and in general (Watson, Clark & Tellegen, 1988;, see Appendix IV).
- Mini-Marker, which measures the big five personality traits. The Mini-Marker is a 27-item reduction from Goldberg's 100-item Unipolar Big Five Marker (Saucier, 1994;, see Appendix V).
- Rosenberg Self-Esteem Scale (Rosenberg, 1965;, refer to Appendix VI).

An electronic copy of these measures was also compiled, to be completed by participants who were inaccessible to the researcher in person, and thus had to receive the materials by e-mail (refer to Appendix VII).

2.4 Procedure

2.4.1 Pen and Pencil Tests Administration

The experimenter met each participant individually to administer the battery of tests, in a bright, quiet, neutral place. Each session was half an hour long. The participants were first thanked for participating in the study, and then they were verbally addressed about the nature of the study. They were told that the study's intention was to investigate the life experience of dyslexics. The cover sheet (Appendix I) was read aloud to the participants, and they were encouraged to ask any questions about the experiment. The cover sheet contained the experimental brief and instructions for administration. The participants were reminded about their right to withdraw at any time during the experiment, and they were reassured that each questionnaire was

completely anonymous. Their contact details were obtained if they chose to obtain the results of the study following its completion. Each questionnaire was coded rather than containing a field for 'name' or details associated with identification to ensure that the participants' questionnaires were not traceable back to the individual participants. The participants were assured that the data collected through the questionnaire was would be destroyed on completion of the analyses.

The participants had the choice to have the questionnaire read out to them or to fill it out themselves. The majority of participants read and filled out the questionnaire themselves. The researcher remained present for the duration of the study. When the questionnaire was completed, the participants were paid £6 and were asked to sign a confirmation of payment form.

2.4.2 Electronic Test Administration

Some participants who contacted the experimenter via email wanted to participate but could only make contact through email. These participants were sent an electronic copy of the test battery and a briefing email. They were given a contact number to call if they had any difficulty in receiving the electronic version of the measures. It was made clear to the participants that they could contact the experimenter with any problems they had regarding the study, also they were reminded about their right to withdraw at any time during the experiment, and they were assured that each questionnaire was completely anonymous.

The participants' contact details were obtained if they chose to obtain the results of the study. Each participant had a coded questionnaire, and this ensured that the participants' questionnaires were not traceable back to the

individual participants. The participants filled out the questionnaire themselves. They were assured that the data collected through the questionnaires would be destroyed on completion of the analysis. They were also asked if they would like a follow-up email that will explain the study's findings. After completing the questionnaire, the participants sent back the completed form by post or email if they so chose. They were sent back a debriefing email reiterating anonymity and to ensure that each participant was just as they were before starting the experiment. The participants were then contacted about how they would like to receive their payment. The majority of participants received their payment via post; however, a few opted to meet the researcher and received it by hand.

2.4.3 Order of Administration of the Questionnaires

The participants who received the study electronically had software to assist them to read and comprehend the study and they filled out the questionnaire electronically or they printed the questionnaire and posted it to the researcher. For those who met the researcher in person, they had the choice to have the questionnaires read out to them or to fill it out themselves; the researcher was present for each participant's filling out of the questionnaires. This was different for the participants who submitted electronic tests as the researcher was absent. The researcher remained was contactable for those who opted for the electronic administration of the questionnaire. The majority of participants' read and filled out the questionnaires themselves. There was no reordering of the questionnaires; all participants had the exact same ordering of questioning. For each participant, the elements of the study were administered in the order below:

1. Socio-Demographic Questionnaire

The participants filled out a written questionnaire which, as described above, addressed socio-demographic factors relevant to the study. They indicated their age, sex, education and job description and if they had been clinically diagnosed with dyslexia or not (see Appendix II).

2. SWLS

The first core questionnaire administered was the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985). This 5-item questionnaire asks a participant to make an overall judgement of their life in order to measure their life satisfaction. Their judgements were rated on a scale from one to seven, with one being "strongly disagree" and seven being "strongly agree" (see Appendix III).

3. PANAS

Two bipolar affective scales, together forming the Positive and Negative Affect Scale (PANAS), (Watson, Clarke & Tellegen, 1988), measured affect. The PANAS is constructed of two subscales: positive affect (PA) and negative affect (NA), each containing 10 items. PA reflects the extent to which a person feels enthusiastic, alert and happy (Watson, et al., 1988). A high PA score reflects a state of high energy, full concentration and pleasurable engagement (Watson et al., 1988). In contrast, NA is a general dimension of subjective distress, subsuming a variety of aversive mood states, and a high NA score indicates more distress. There were two different ratings for each affect, "how a participant feels in the past week" and "how a participant feels in general". Participants were asked to document how they felt in the past week at the time of the study, and in general, by indicating how strongly they agreed or

disagreed with a number of words that describe different feelings, and emotions that describe themselves (see Appendix IV).

4. Rosenberg SES

The Rosenberg Self-Esteem Scale was third in the order of measures. The participants indicated on a scale from one "strongly agree" to five "strongly disagree" how they felt about ten statements (see Appendix V). Each statement referred to how they felt their view of their present self matched their ideal self. This has no cultural, age or socio-economic bias and is easily comprehendible (Rosenberg, 1965).

5. Mini-Marker

The Mini-Marker, developed by Saucier (1994) from the NEO-FFI, measures openness or intellectual (creative, imaginative and imaginative), conscientiousness (organised, efficient and systematic), extroversion or surgency (talkative, social and bold), agreeableness (sympathetic, cooperative and warm) and emotional stability (relaxed, temperamental and touchy). To complete it, the participants rated a list of personality adjectives on a scale from one, "strongly disagree" to five, "strongly agree" (see Appendix VI).

3. Results

As previously mentioned, all of the measures administered, except the socio-demographic questionnaire, were of a Likert type, and in this results section, will be treated as interval data. The results are shown below in Table 1 and 2, which display the raw means and standard deviations. There is great disagreement about whether Likert scales produce interval data or just ordinal. However, previous research in this field treats the data collected as interval data (Riddick et al., 1999); hence this study shall use the means of the well established scales of the SWLS, the PANAS, the Rosenberg SES and the Mini Marker.

3.1 Descriptive Statistics

Every participant completed all measures, producing a full complement of data. There were three participants excluded from the participant pool as they were full time students and the current study is looking at a non-academic population sample. There were two groups in this study: a dyslexic and a non-dyslexic group, with 22 participants being in each group. The results from the Socio-demographic questionnaire are shown below in Tables 1, 2 and 3.

	Dyslexic Group		Non-Dyslexic Group	
	Mean	Standard Deviation	Mean	Standard Deviation
Age	26.05	6.763	25.23	4.34
Annual pay	21191.59	10884.12	20441.82	11319.87

Table 1: Socio-Demographic Variables for all Participants

There were two groups in this study: a dyslexic and a non-dyslexic group, with 22 participants being in each group. The mean age for the dyslexic group was 26.05 (*SD*=6.76) years and for the control group it was 25.23 (*SD*=4.34) years. The average annual pay earned by members of the dyslexic group was £21,191.59 (*SD*=£10884.12). In contrast to this, the control group's mean income estimate was £20,441.82 (*SD*=£11319.88).

	Primary Education	Third level education	Post graduate Qualifications	Total
Dyslexic females	2	5	4	11
Dyslexic males	1	5	5	11
Non-Dyslexic Females	1	4	5	10
Non-Dyslexic Males	1	4	7	12
Total	5	18	21	44

Table 2: Education Level Frequencies for the Dyslexic and Non Dyslexic Groups

The frequencies for all participants' education (across groups) were as follows: 5 participants (11.4%) had received only primary and secondary level education, 18 (40.9%) had received up to tertiary education and 21 (47.7%) had received postgraduate education (Table 2.). The largest percent of occupational status for both groups was non-manual skilled occupations; this accounted for 29.5% of employment across groups. Interestingly, the majority of the jobs were in sales and administration. Managerial and lower professionals were a close second with 27.3%. Table 3 demonstrates the frequencies of the dyslexic and non-dyslexic participants' occupational status, and the total occupational status held by both groups combined.

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	Managers/ Officials/ Professionals	Managerial/ Lower Professional Occupations -e.g. HR managers, etc.	Manual Skilled Occupations- e.g. bricklayers, coalminers.	Non-Manual Skilled Occupations- e.g. office workers.	Semi-Skilled Occupations- e.g. hairdressers, CCTV operators	Unskilled Occupations- e.g. porters, waiters, dustmen	Total
Dyslexic Group	5	4	1	10	1	1	22
Non-Dyslexic Group	4	8	2	3	1	4	22
Dyslexic Female	1	2	1	5	1	1	11
Dyslexic Male	4	2	0	5	0	0	11
Non-Dyslexic Female	3	2	1	1	1	2	10
Non-Dyslexic Male	1	6	1	2	0	2	12

Table 3: Frequency Table for Occupational Status in Groups

Table 4, below, displays the raw mean scores and standard deviations for each variable measured, as attained by the "dyslexic" group and the "non-dyslexic" group. The variables measured were Satisfaction with life (SWLS), Positive Affect in the past week (PA last week), Negative Affect in the last week (NA last week), Positive Affect in general (PA in general), Negative Affect in general (NA in general), Rosenberg Self-esteem Scale (Rosenberg-

SES), and the personality factors derived form the Mini-Marker; Extroversion (Surgency), Agreeableness, Conscientiousness, Emotional Stability and Intelligence (Openness).

	Dyslexic Group		Non-Dyslexic Group	
	Mean	Standard Deviation	Mean	Standard Deviation
SWLS	22.77	7.03	23.23	5.90
PA in the last week	31.18	6.96	29.50	6.75
NA in the last week	21.95	8.31	21.45	7.81
PA in general	33.68	7.49	31.18	7.02
NA in general	20.09	6.74	20.27	4.41
Rosenberg SES	7.09	2.83	7.91	1.82
Extroversion score	27.91	5.79	24.00	4.66
Agreeableness	30.77	5.00	27.95	6.12
Conscientiousness score	27.86	6.49	29.32	6.07
Emotional Stability score	27.59	5.13	24.00	5.21
Intelligence score	30.27	4.42	27.82	5.40

Table 4: Dyslexic / Non-Dyslexic Scores on SWL, Affect, Self-Esteem Scales and Personality Facets .

		Dyslexic group	Gender of Participants	Occupational Status in groups	Education Received
Dyslexic/Non-Dyslexic	Correlation Coefficient	1.000	.046	-.020	.138
	Sig. (2-tailed)	.	.769	.896	.371
Gender of Participants	Correlation Coefficient	.046	1.000	-.107	.107
	Sig. (2-tailed)	.769	.	.490	.490
Occupational Status in groups	Correlation Coefficient	-.020	-.107	1.000	-.369(*)
	Sig. (2-tailed)	.896	.490	.	.014
Annual Pay Status Estimate	Correlation Coefficient	.399(**)	-.362(**)	.098	.159
	Sig. (2-tailed)	.004	.008	.	.151
Education Received	Correlation Coefficient	.138	.107	-.369(*)	1.000
	Sig. (2-tailed)	.371	.490	.014	.

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (1-tailed).

Table 5: Spearman's rho Non-Parametric Correlation Matrix for Education, Gender and Occupation

A Spearman's *rho* correlation test was run on the non-parametric data between the two groups. The test demonstrated that occupational status and education were negatively significantly correlated (r_s=-0.369 p>0.05), as were annual pay and gender (r_s=0.362 p>0.01). Annual pay positively correlated with the participants dyslexic group (r_s= 399 p >0.01), suggesting dyslexics are paid slightly more. See Table 5 above.

3.2 Gender Differences within the Dyslexic Group.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	13.339(a)	2	6.670	1.180	.317
Intercept	174.840	1	174.840	30.944	.000
Gender	5.976	1	5.976	1.058	.310
Error	231.661	41	5.650		
Total	2720.000	44			
Corrected Total	245.000	43			

a. R Squared = .027 (Adjusted R Squared = .004)

Table 6: General Linear Model Analysis of Dyslexic Participants Scores on Self-Esteem Scale.

We next investigated the effect of gender - within the dyslexic population – on the self esteem scores collected from the Rosenberg questionnaire. Although the mean scores of females and males on the self-esteem measure seemed to be similar (Table 6), an independent samples t-test found that there was a significant difference between genders for self-esteem (t (42)=0.007, p<0.01), males scoring more positively than women ,with little to no effect (R^2=.027).

However to investigate this difference more precisely we examined the data using a GLM analysis. This analysis failed to find support for a gender difference in self-esteem scores: No significance was found between the two groups (*female: M*=7.10, *SD*=0.651; *male: M*=7.87, *SD*=0.346), (See Table 4, p.34), and the variance explained did not even approach significance (0.31%).

The literature suggested that there would be a difference between male and female dyslexics for extroversion and emotional stability scores. Neither surgency /extroversion nor emotional stability was found to be significant.

From Table 7, we can see that extroversion was almost significant for type III sum of squares as it approaches significance (F=3.953, p<0.054). However, this is not reliable, as they are not the best fit for the model (R^2=0.201). A between subjects t-test was run on all the variables separating groups by gender, and although extroversion approached significance, no variables were found to indicate full significance.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2.206(a)	3	.735	3.344	.028
Intercept	9.328	1	9.328	42.428	.000
Surgency/Extroversion	.869	1	.869	3.953	.054
Emotional Stability	.806	1	.806	3.666	.063
Gender	.009	1	.009	.040	.843
Error	8.794	40	.220		
Total	110.000	44			
Corrected Total	11.000	43			

a. R Squared = .201 (Adjusted R Squared = .141)

Table 7: General Linear Model Results Comparing Genders for Affect and Personality in Dyslexic Participants.

We next investigated whether any gender differences exist in the dyslexic population on measures of personality and Affect. A series of independent t-tests were carried out comparing male vs. female dyslexics on their scores in: SWL, Positive Affect, Negative Affect, and a set of personality factors (conscientiousness, agreeableness and intelligence). The results are displayed in Table 8 and show that there were no significant gender differences between the variables displayed, with no score even approaching significance.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
SWLS	1.787	.189	-.419	42	.677	-.820	1.955	-4.766	3.126
PA in the last week	2.508	.121	-.138	42	.891	-.288	2.084	-4.494	3.919
NA in the last week	.401	.530	.449	42	.656	.996	2.219	-3.482	5.474
PA in general	.295	.590	-.442	42	.661	-.439	.3047	-.75	.48010
NA in general	.001	.976	-.256	42	.800	-.774	1.718	-3.906	3.028
Rosenberg SES	8.061	.007	-1.077	42	.288	2.182	.719	-2.226	.677
Extroversion	2.713	.107	1.312	42	.197	-1.060	1.663	-1.175	5.539
Agreeableness	.135	.716	-.611	42	.545	.418	1.735	-4.561	2.441
Conscientiousness	4.633	.037	.219	42	.828	-1.613	1.908	-3.433	4.269
Emotional Stability	5.879	.020	-.985	42	.330	-.360	1.638	-4.918	1.692
Intelligence score	1.403	.243	-.235	42	.816	-.135	1.535	-3.458	2.738

Table 8: Independent Samples T-Test to investigate Gender Differences between Dyslexic Males and Females

The issues with gender coincide with the contradictions that are found in previous literature. There is little evidence supporting a gender difference from the current study. From this a comparison of the dyslexic and non-dyslexic group is made.

3.3 Comparing Dyslexic versus Non-Dyslexic Participants.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
SWLS	.247	.622	-.232	42	.817	-.455	1.956	-4.402	3.493
PA in the last week	.335	.566	.814	42	.420	1.682	2.066	-2.488	5.852
NA in the last week	1.151	.289	.206	42	. .838	.062715	.304926	-.55265	.678081
PA in general	.004	.951	1.143	42	260	2.500	2.188	-1.916	6.916
NA in general	3.655	.063	-.106	42	.916	-.182	1.717	-3.647	3.283
Rosenberg SES	3.714	.061	-1.141	42	.260	-.34277	.30046	-.94912	.263584
Extroversion	**2.009**	**.164**	**2.467**	**42**	**.018**	**3.909**	**1.584**	**.712**	**7.107**
Agreeableness	1.398	.244	1.672	42	.102	2.818	1.686	-.584	6.220
Conscientiousness	.265	.610	-.768	42	.447	-1.455	1.894	-5.277	2.368
Emotional Stability	**.073**	**.789**	**2.303**	**42**	**.026**	**3.591**	**1.559**	**.444**	**6.738**
Intelligence score	.618	.436	1.651	42	.106	2.455	1.487	-.546	5.456

Table 9: Independent Samples T-Test

Hypothesis 1, 2, 3, 4 and 6 predict differences between the dyslexic and non-dyslexic populations. To investigate this we ran a series of between subjects' t-tests comparing dyslexic scores on the set of questionnaires (SWLS, PA and NA in the last week, PA and NA in General, Rosenberg, Extroversion, Agreeableness, Emotional Stability and Intelligence). The t-test results are displayed in Table 9. From this table we can observe that there is little

significant difference between the mean scores on most of these tests. The majority of the null hypotheses have been found significant. However, there were significant Group differences on scores of Extroversion. Akin to previous literature, the dyslexic group scored higher for Extroversion. However, the dyslexic group scored higher for Emotional Stability, which is not found to be the case in the literature. Extroversion was found to be positively significant, such that the dyslexic group scored higher on extraversion than the non-dyslexic group t (42) =2.467, p>0.05; it represented a medium sized effect r=0.36. Furthermore, there was an effect of Emotional Stability (E.S). E.S. was found to be higher for dyslexics than for non-dyslexics t (42) =2.303, p>0.05. E.S represented a medium sized effect r= 0.334. This finding is unexpected as it has no support in previous literature. The hypothesis that "emotional stability will be significantly different" was supported, however; the direction as not supported, as dyslexics scored higher than non-dyslexics.

However, on all of the other measures the dyslexics did not score significantly different. On ratings of life satisfaction the groups show no significant difference so there was no support for the first hypothesis -"the dyslexic group will score higher on ratings of negative self-esteem than the control group" Similarly, there was no support for the second hypothesis that "the dyslexic group shall score lower for positive affect than the control group and higher for negative affect".

3.4 Exploring the Relationships between the Dyslexic and Non-Dyslexic Scores on Scales.

In order to see whether the Satisfaction, Esteem, Positive and Negative Affect and Personality variables interacted in a similar manner in the dyslexic and non-dyslexic groups, we ran a series of correlations on these measures. Table 10 displays the Pearson's correlation matrix for the two groups' scores. Despite the obvious high correlations, such as between NA for the past week and in general (r=0.59, p>0.05) and between PA for the past week and in general (r=0.631, p>0.05), which account for over half of the variance, there were some other interesting correlations. Hypothesis four states that "self-esteem scores will positively correlate with satisfaction with life scores for both groups", and this was not supported. However, as might be expected, self-esteem negatively correlated with negative affect during the past week (r= -0.294, p>0.01) and in general (r= -0.336, p>0.01). Age and self-esteem (r=-.427, p>0.05) were negatively correlated, this would suggest that the older one gets the lower the self esteem one develops. Conscientiousness correlates for 41.2% of the variance for occupation status; this is quite a large figure.

Education and extroversion were negatively correlated (r=-.295, p>0.01), this had a medium effect and accounted for 29.5% of the variance. Positive affect in general seemed to correlate highly with satisfaction with life (r=.337, p>0.01. To a lesser extent, positive affect (PA) for the past week and extroversion correlated (r=0.392, p>0.05). Agreeableness and positive affect for the past week also correlated (r=.36, p>0.05). Contentiousness and PA in general were correlated, accounting for 30.5% of the variance (r=.305, p>0.01) and intelligence and PA in general were also significantly correlated (r=.297, p>0.01).

Age had interesting correlations. It negatively correlated with occupation status (r= -0.31, p>0.01), and as said before, for self-esteem (r=-0.427, p>0.01). Age correlated highly with pay status (r=0.532, p>0.05), and interestingly, age also correlated positively with intelligence (r=.281, p>0.01) and education (r=.384, p>0.05).

	Dyslexic/ Non-Dyslexic	Age	Occupational Status	Annual Pay	Education	SWLS	PA last wk	NA last wk	PA general	NA general	R- SES	Extroversion	Agreeableness	Conscientiousness	E.S
Age	-.146														
Occupational Status	.000	**-.310(*)**													
Annual Pay	-.068	**.532(**)**	**-.316(*)**												
Education	.134	**.384(**)**	**-.370(**)**	.213											
SWLS	.036	-.100	-.220	**.284(*)**	.169										
PA in the last wk	-.125	.096	-.232	.150	.052	**.457(**)**									
NA in the last wk	-.032	.190	.114	-.230	-.022	-.216	-.033								
PA in general	-.174	.064	**-.341(*)**	.016	.178	**.337(*)**	**.631(**)**	.016							
NA in general	.016	.102	.009	-.154	-.018	-.236	**-.305(*)**	**.590(**)**	-.030						
Rosenberg SES	.173	**-.427(*)**	-.174	.010	-.085	.222	.138	**-.294(*)**	.001	**-.336(*)**					
Extroversion	**-.356(**)**	.108	.119	.171	**-.295(*)**	.109	**.392(**)**	-.186	.183	-.227	-.170				
Agreeableness	-.250	.057	-.232	-.042	.126	.098	**.360(**)**	.164	**.260(*)**	.035	.101	.206			
Conscientiousness	.118	.064	**-.412(**)**	.059	.095	.209	**.317(*)**	-.007	**.305(*)**	-.187	.126	-.042	.034		
Emotional Stability (E.S)	**-.335(*)**	.046	-.054	-.069	**-.267(*)**	-.084	.234	-.100	.146	**-.373(**)**	.085	.196	**.301(*)**	.041	
Intelligence	-.247	**.281(*)**	**-.344(*)**	.193	.103	.006	.201	.145	**.297(*)**	.115	-.062	-.181	.169	**.336(*)**	-.018

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Table 10: Pearson's Correlation Coefficient Matrix

3.5 Summary of Findings

Overall, the dyslexic and non-dyslexic groups were similar in response to the various factors measured; for example, the Spearman's *rho* found that there was a positive correlation between pay status and occupation in both groups. Self-esteem was found to be negatively correlated with negative affect in general, which aligns with common literature. Interestingly, age was negatively correlated with self-esteem. Age was also correlated negatively with occupation status and positively with pay, intelligence and education. Education was negatively correlated with extroversion. Conscientiousness was highly positively correlated with occupation status and positive affect in general, which also correlated with intelligence and satisfaction with life.

From our initial exploration of the data there seemed to be very little difference between the means of the dyslexic and non-dyslexic groups. When a between subjects t-test was implemented on the scores there was a difference found between the two groups for extroversion and emotional stability, but this was the only significant effect.

The expected gender difference between the two groups was subtle. A t-test found that there was a difference between the scores of male and female self-esteem; males were more positive. However; with further inspection using a GLM, there was no significant difference between the genders, and so this must have occurred by chance. A GLM which inspected how extroversion and emotional stability differed between the genders also showed no significance.

Finally, we should reiterate that this study has a small population, so the results assumed should be viewed with some caution. While we offer a note of caution regarding the small sample size, Snowling (2000) maintains that the majority of scientific studies administering to this specific dyslexic population are between 16-30 participants. Concluding from this, the current study is keeping within the sample sizes used in related studies.

4. Discussion

4.1 Previous Literature

Previous literature demonstrates that dyslexics exhibit similar scores on global self-esteem to their cognitive and academic peers (Riddick, Farmer & Sterling, 1997). A considerable amount of literature has also found that dyslexics experience depressive feelings and negative affect (Passé, 2006; Burden, 2005; Scott, 2004). Explorations into self-reported personality traits and dyslexia are quite limited; however, some trends in the literature suggest that scores for emotional stability and extroversion differ significantly between dyslexics and their peers, with dyslexics scoring higher on both traits (Reiff et al. 1997, cited by Riddick et al. 1999). Evidence for gender differences between dyslexic males and females is conflicting (Passé, 2006; Riddick et al. 1999), however the results from the present study would suggest that there are very subtle differences, and they need further investigation.

There is not much evidence focussing upon the developed or nurtured personality traits, self-esteem and affect which are common, in particular, amongst dyslexics. The current study's intentions were to see how previous findings from academic settings are generalisable to dyslexics in the general population. It investigated whether the lower ratings of self-esteem and mood which have been found in the academic dyslexic population are reflected in dyslexic in the general population. The results suggest that this is not the case. The current study also observed if dyslexics felt that they experienced high satisfaction with life as much as the general population. The dyslexics and the wider population experienced similar life satisfaction outcomes as well as those for self-esteem, positive and negative affect. There have been no studies

of this nature before; therefore, the hypotheses were derived from previous investigations on the self-esteem of children and adult students (Passé, 2006; Dale & Taylor, 2001; Riddick, Sterling, Farmer & Morgan, 1999).

4.2. Summary of Findings

One must reiterate that this study had a small population, so the results assumed should be aired with caution. The potential disparities between genders were one of the main focuses of this study. Not surprisingly there was little difference between the socio-economic status between male and female dyslexics. Interestingly, the results postulated that there *was* a difference between the scores of males and females on the self-esteem measure, with males being more positive; however, on further inspection using a GLM, there was no significant difference between the genders. There was no significant difference in scores between the dyslexic and non-dyslexic groups for satisfaction with life, positive or negative affect, self-esteem or most personality facets. However, akin to previous literature, the dyslexic group scored higher for extroversion than the control group. Interestingly, they also scored higher on the emotional stability measure, which has not been found to be the case in previous literature. Reid and Peer (2001) found that dyslexic children's mothers reported that they demonstrated lower emotional stability than their non-dyslexic peers.

Furthermore, a number of interesting correlations became apparent when the two groups, dyslexic and non-dyslexic, were considered together. In both groups, self-esteem was found to be negatively correlated with negative affect in general, aligning with common literature. Intuitively, the less negative affect one experiences, the higher self-esteem one has. Interestingly, age was negatively correlated with self-esteem. It would be interesting to figure out

why when one gets older their self-esteem should decrease or vice versa. There seems to be evidence supporting both of these conclusions. One paper postulated that age may affect the variables that impact on self-esteem (Riddick, 1996). However, maybe the diagnosis of dyslexia also affects self-esteem and self-concept in an older person, in a negative way. One should investigate this further in future research.

As dyslexia has only been a diagnosable disorder for the past two decades, many studies neglect an older population that may experience dyslexic disabilities, and yet may not have been diagnosed. Burden postulated that social and emotional problems among this demographic decrease as they mature (Burden, 2008; Burden, 2005). In the present study, age was negatively correlated with occupation status, but was positively correlated with pay, intelligence and education. As older populations may not have had the assistance or support younger populations had access to, however, they may have had to have more positive self-perception of their ability in order to succeed in work or academia (Burden, 2008; Riddick, 1996).

Education was negatively correlated with extroversion, which is an interesting find. There have been almost no reports on a correlation such as this, suggesting that this relationship should be thoroughly explored in future research. Conscientiousness was highly positively correlated with occupation status and positive affect in general, which also correlated with intelligence and satisfaction with life. This finding is consistent with previous research, suggesting that conscientiousness impacts on intelligence and satisfaction with life. This may contribute to better occupational status and positive affect (Diener, Emmons, Larsen, & Griffin, 1985).

4.3 Implications of the Current Study

From the results of this study, it seems that further research into self-reported personality facets should be carried out. Extroversion was found to differ significantly between the two groups, the dyslexic and the non-dyslexic group. Extroversion could be compensatory from difficulties encountered by dyslexics to assist resilience (Peer & Reid, 2001), or it could possibly be that extroversion could be an innate trait of dyslexia (Scott, 2004). It was also found to be negatively correlated with education status. Extroversion could be a very important facet to explore for coping and succeeding. One should explore if extroversion is a causal factor or if it is contributed or developed of dyslexia. The definition of extroversion of a causal or an affect of dyslexia could assist intervention and diagnosis.

In additional general correlations across groups, conscientiousness was found to be negatively correlated with occupational status; this would suggest that more conscientious you are the lower occupational status you have. This negative relationship is very unusual. It could suggest those who maybe more conscientious about their disability do not proceed up the occupational status ladder, while those who are not conscientious succeed further. This correlation should definitely be explored further, as it could hold insights to how dyslexics cope in the work place. One could postulate that might this assists our understanding of success or coping strategies in the future, as possibly less conscious methods of coping would suit dyslexic individuals. Future research that allows us to understand these findings would be very worthwhile. This could be achieved through studies of coping strategies employed by self-perceived "successful" dyslexics.

Working with adults who are 'successful' within the dyslexic population, and observing how they manage and view their lives can contribute greatly to

research. We should compare this population to those people who have additional challenges of different types; who perceive themselves as being dyslexic, for example, or are in prison, or are in a clinical population, and see how they differ. As the dyslexic working population from this study was quite similar to the control group, it would be interesting to compare the dyslexic population to a criminal or clinical population to see if there are differences that could assist intervention programmes or help rehabilitation of those who are suffering. This comparison could provide interesting insights into differences in self-perception between general and clinical samples, and could greatly benefit dyslexics and psychologists alike.

4.4 Limitations

Due to the time constraints and the limited means of advertising and funding, it was a challenge collecting a number of voluntary participants. Ideally, one would have preferred a larger sample. However, the sample that was obtained was a varied selection from the general population. It would have been interesting to see the results if there were more participants; however, there are still certain things to learn from this study, although it utilised a small sample.

If the participants in the control group had been more randomly selected, they could possibly have produced a different set of results. The main limitation of this study is that the controlled variables (e.g. occupational status, annual pay, etc.) may have limited the differences in scoring between the groups. The dyslexic group and the control group were so alike (with the exception of the dyslexia diagnosis), that their scores could have been similar partly because their life experiences may have been similar too. One should investigate what one is actually controlling for and what is causal, as the

correlations on some of the factors, like self-esteem, might simply have been due to similarities between friends, or life satisfaction with education. Using more random sampling for the control group would allow us to eliminate such issues.

This study was primarily intended to look at those who consider themselves dyslexic. The sample population volunteered themselves as dyslexic; they all reported having had a clinical diagnosis made by a psychologist. The reason for this was to obtain a demographic that identified themselves as dyslexic. However, there are two fundamental limitations to this criterion. Firstly, it does not account for other associated disorders that a dyslexic may have (for example, Attention Deficit Hyperactivity Disorder (ADHD) or dyspraxia, etc.), which could have a larger or smaller effect on the variables tested, and it excludes those who may be dyslexic and who have not been diagnosed. This could exclude a demographic that may have had an influential input into these sorts of studies. In future if one had more resources and the expertise, one should screen for dyslexia and thus possibly increase the sample size, and would then know the detail of the participants' diagnoses, also.

In addition, the current study ignored at what stage of life each participant was diagnosed with dyslexia. Those who had an early diagnosis may have had fewer difficulties, and have higher self-esteem and more positive affect. They could have coped better with their difficulties and may have had benefited by a diagnosis. This has not been supported by studies in the past. Morgan and Klein (2000) found that those who are diagnosed later in life find it more difficult to deal with past humiliations and experiences, as well as dealing with compensation issues. Many studies do not outline how long their participants have had the diagnosis of dyslexia, unless it is completely

necessary. This researcher would suggest looking into this aspect of diagnosis further.

Concluding from these limitations, the present study brought up a considerable number of new questions to be answered, and it is clear that research with adult dyslexics who are out of education is still in its infancy. In addition, due to the small population involved in this study, it is rather speculative to imply that these results apply to the population at large.

4.5 Future Research

Firstly, future research should consider exploration into other, more specific aspects of self-esteem, like academic self-esteem, as well as global self-esteem. Future research should also question why there was no difference between these adult dyslexic and non-dyslexic groups, while there have been distinctive differences shown between dyslexic and non-dyslexic children and students for similar variables tested in other studies (Passé, 2006; Riddick, Sterling, Farmer & Morgan, 1999). This researcher suggests that the dyslexic and non-dyslexic groups didn't differ in this study because dyslexics are just as capable as anybody else in 'normal' life, and it is only in academia that the term dyslexia affects one's satisfaction with life, self-esteem, mood or self-concept. However, there is no evidence to support this postulation, and therefore more research should be executed. Also, this study was based on results from a small sample population. It is in keeping with the small numbers shown in this general body of works; however, it would be interesting to implement a study of this kind on a larger population number, as more graphic results could be observed.

Future research should also consider the dyslexic identity. This researcher asked people who considered themselves dyslexic to volunteer for the study. Nonetheless, literature and statistics suggest that there are a lot of "dyslexics" out there who may not consider themselves dyslexic, but face the same challenges as those who are diagnosed (Scott, 2004). Also, one may get a better picture of dyslexic diagnostic criterion from a more inclusive approach.

Burden (2008; 2005) suggests that one should refocus research to observe what could assist difficulties such as dyslexics' perception of efficacy, whether they experience a sense of learned helplessness and if they have accurate insight into their learning attributions. However, this researcher suggests that studies that have been developed to measure such concepts, like the Dyslexia Identity Scale (DIS) or the Myself-as-a-Learner Scale (MALS), are leading, and as such could result in inaccurate outcomes. Marking such statements as "dyslexia is a curse" or "being dyslexic makes it impossible to do well at school" could lead a person to think in such a way, or to give desirable answers (Burden, 2005; p. 32-34). This line of questioning for learned helplessness and depression implies that dyslexia is the causal factor of these underlying values, and the fact that these scales were designed for dyslexics means that there is no comparative test group to observe reliability.

From feedback given during the study, many of the participants recalled that they felt relief and/or upset at the time of their diagnosis, and they recalled affects and emotions from this experience. This reflects the qualitative research on diagnosis (Riddick, 1996; 2000). Three participants suggested that they key point is how the psychologist handles the information output to the client, and how the client interprets this output. This could make for a very interesting future study. One could possibly try and observe the effects of age of diagnosis, how a person acquired a diagnosis (e.g. from school, privately,

etc.), and if they experienced a positive or negative affect from the diagnosis; all these factors may have impacted their academic and global self-concept.

There should also be further investigation into the idea that dyslexia has a causal relationship with the experience of negative affect. Conversely, it should be examined whether this negative affect is due to the diagnosis and the label of dyslexia, or is it due to the difficulty that one encounters when one is dyslexic? Should it be an observation of the individuals' whole global identity or should it be exclusively academic? Finally, should one look at preventing learned helplessness by facilitating dyslexics to alternate learning skills and development in an alternative academic way, as opposed to creating a 'disabled identity' for them in an academic setting?

4.6 Conclusion

Due to the lack of conclusive evidence found in this study, one may suggest that those who suffer from dyslexia in the general public may have compensatory mechanisms that could assist them in combating the low self-esteem, mood issues, poor satisfaction with life and personality factors that seem to be an issue for dyslexics in academia. Equally, these findings could be the result of methodological constraints. However, one must reiterate that the study implemented was a preliminary exploration into this sample demographic, and further investigations should ensue.

There is potential to extract assistive information about the diagnosis, treatment and general traits of dyslexia from those who have lived with and used this disability productively. The correlation between age and self-esteem found in this study suggests that age may influence the adverse factors that are experienced by children and teenagers coping with dyslexia. This finding

could be resultant of with age, the development of finer coping and compensatory skills occur.

This preliminary study on the self-concepts of those who have dyslexia has found some interesting conclusions that should be thoroughly explored in future research. The most fruitful result from this study is the discovery of extroversion as a differential factor between the two groups. This finding could possibly shed light on how dyslexics may differ from their cognitively and socio-economically matched peers, and might have implications for occupational, educational and clinical authorities. They should perhaps observe extroverts' academic behaviour particularly carefully, as it could be an indication of dyslexic tendencies; however, further research should be implemented before this can be confirmed.

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Appendix I: "Flyer"

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Email Louise.Kelly@ed.ac.uk
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Head of Dept. Morag Donalson

20 August, 2008

My name is Joy Cosgrove Garvey. I am a Masters student with the University of Edinburgh. I am currently trying to recruit participants for my study. The study is a simple questionnaire that will take no longer than 20 minutes. I need to have the questionnaires completed by the end of July 2008.

My study is investigating the **life experience of dyslexic individuals**. The aim is to investigate whether a person's dyslexia affects their outlook on life. I would like to recruit **anyone with dyslexia who is currently employed**. If you fit this description, your participation would be greatly appreciated. I am also looking for participants who are not dyslexic. It would be great, therefore, if you could also nominate a friend or colleague who is same sex as you and is approximately the same age, and has about the same pay/education status as you but is not dyslexic.

If you could help, or want further details, please contact me:

My email is **s0787819@sms.ed.ac.uk**
My telephone number is (07513) 440802

Thank you very much for you time,
Joy Cosgrove Garvey

Appendix II: “Mission Statement and Declaration”

Dear Sir/ Madam,

My name is Joy Cosgrove Garvey and I am a Masters student in Research Psychology at the University of Edinburgh. You are invited to participate in my research. This study will investigate the life experience of dyslexic individuals. The aim is to investigate whether a person’s dyslexia affects their outlook on life. There are four short questionnaires that will investigate life experience. Your participation is voluntary and I greatly appreciate your help. Please answer all questions as honestly and accurately as possible.

It will take no longer than one hour to fill out all of these questionnaires. You have the right to withdraw at any stage from this study. Your data will be anonymised throughout the study so your answers will not be able to connect to you personally. Your information shall not be disclosed to anyone other than myself. You have the right to access the results of the study. Please do not hesitate to ask me any questions. If you have any problems for whatever reason, my email address is: s0787819@sms.ed.ac.uk

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The purpose of this research has been explained and my participation is voluntary. I have the right to stop participation at any time without penalty. I understand that the research has no known risks, and I will not be identified. By completing this survey, I am agreeing to participate in this research project.

_____ Date:_____

Appendix III: "Descriptive Data Collection Page"

Age:_____

Sex:_____

Occupation: _____

Nationality:_____

Education (Please Circle the Completed Education Received):

Primary & Secondary Education/ Third Level/ Post-graduate Qualification

Rough estimate of your annual income:___

_____

Have you been clinically diagnosed with Dyslexia by an educational psychologist using the Welscher Intelligence Scales for Children or Adults (WISC-III, WISA-IV)? Yes / No

Appendix IV: “Satisfaction With Life Scale”

SWLS

Below are five statements with which you may agree or disagree. Using a 1 to 7 scale, indicate your agreement with each item by placing the appropriate number in the box next to that item. Please be open and honest in your responses.

The 7 point scale is :

1= Strongly Disagree
2= Disagree
3= Slightly Disagree
4= Neither Agree or Disagree
5= Slightly Agree
6= Agree
7= Strongly Agree

Insert Rating Here:	**Statements:**
	In most ways my life is close to ideal
	The conditions of my life are excellent
	I am satisfied with my life
	So far I have got the important things I want in life
	if I could live my life again, I would change almost nothing

Appendix V: "Positive and Negative Affect Scale"

PANAS

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you have felt this way during **the past week.**

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you feel this way **in general**.

	Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**
21. Interested	1	2	3	4	5
22. Distressed	1	2	3	4	5
23. Excited	1	2	3	4	5
24. Upset	1	2	3	4	5
25. Strong	1	2	3	4	5
26. Guilty	1	2	3	4	5
27. Scared	1	2	3	4	5
28. Hostile	1	2	3	4	5
29. Enthusiastic	1	2	3	4	5
30. Proud	1	2	3	4	5
31. Irritable	1	2	3	4	5
32. Alert	1	2	3	4	5
33. Ashamed	1	2	3	4	5
34. Inspired	1	2	3	4	5
35. Nervous	1	2	3	4	5
36. Determined	1	2	3	4	5
37. Attentive	1	2	3	4	5
38. Jittery	1	2	3	4	5
39. Active	1	2	3	4	5
40. Afraid	1	2	3	4	5

Appendix VI: “Rosenberg SES

Rosenberg SES

Please tick the appropriate box

Scale Item I:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I feel that I am a person of worth, at least on an equal basis with others				
I feel that I have a number of good qualities				
All in all, I am inclined to feel that I am a failure				

Scale Item II:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I am able to do things as well as most other people				
I feel I do not have much to be proud of				

Scale Item III:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I take a positive attitude toward myself				

Scale Item IV:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
On the whole, I am satisfied with myself				

Scale Item V:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
I wish I could have more respect for myself				

Scale Item VI:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
I certainly feel useless at times				
At times I think I am no good at all				

Appendix VII: “Mini- Marker”

Mini-Marker

Please use the list of common human traits to describe yourself as accurately as possible. Circle the number on the rating scale to indicate how accurately the trait describes you.

Circle 1 if trait describes you very inaccurately.
Circle 2 if the trait describes you inaccurately.
Circle 3 if the trait describes you neither accurately or inaccurately.
Circle 4 if the trait describes you accurately.
Circle 5 if the trait describes you very accurately.

Very inaccurate	**Inaccurate**	**Neutral**	**Accurate**	**Very Accurate**
1	2	3	4	5

		Very Inaccurate	**Inaccurate**	**Neutral**	**Accurate**	**Very accurate**
1	Relaxed	1	2	3	4	5
2	Deep	1	2	3	4	5
3	Creative	1	2	3	4	5
4	Philosophical	1	2	3	4	5
5	Unsympathetic	1	2	3	4	5
6	Temperamental	1	2	3	4	5
7	Energetic	1	2	3	4	5
8	Cooperative	1	2	3	4	5
9	Talkative	1	2	3	4	5
10	Shy	1	2	3	4	5
11	Harsh	1	2	3	4	5
12	Withdrawn	1	2	3	4	5
13	Imaginative	1	2	3	4	5

14	Organised	1	2	3	4	5
15	Bashful	1	2	3	4	5
16	Careless	1	2	3	4	5
17	Efficient	1	2	3	4	5
18	Complex	1	2	3	4	5
19	Warm	1	2	3	4	5
20	Intellectual	1	2	3	4	5
21	Touchy	1	2	3	4	5
22	Unenvious	1	2	3	4	5
23	Bold	1	2	3	4	5
24	Extraverted	1	2	3	4	5
25	Practical	1	2	3	4	5
26	Disorganised	1	2	3	4	5
27	Unintellectual	1	2	3	4	5
28	Sloppy	1	2	3	4	5
29	Envious	1	2	3	4	5
30	Rude	1	2	3	4	5
31	Fretful	1	2	3	4	5
32	Uncreative	1	2	3	4	5
33	Sympathetic	1	2	3	4	5
34	Quiet	1	2	3	4	5
35	Inefficient	1	2	3	4	5
36	Kind	1	2	3	4	5
37	Jealous	1	2	3	4	5
38	Moody	1	2	3	4	5
39	Systematic	1	2	3	4	5
40	Cold	1	2	3	4	5

Appendix VIII: “Electronic Copy of the Questionnaires”

Dear Sir/ Madam,

My name is Joy Cosgrove Garvey and I am a Masters student in Research Psychology at the University of Edinburgh. You are invited to participate in my research. This study will investigate the life experience of dyslexic individuals. The aim is to investigate whether a person's dyslexia affects their outlook on life. There are four short questionnaires that will investigate life experience. Your participation is voluntary and I greatly appreciate your help. Please answer all questions as honestly and accurately as possible.

It will take no longer than one hour to fill out all of these questionnaires. You have the right to withdraw at any stage from this study. Your data will be anonymised throughout the study so your answers will not be able to connect to you personally. Your information shall not be disclosed to anyone other than myself. You have the right to access the results of the study. Please do not hesitate to ask me any questions. If you have any problems for whatever reason, my email address is: s0787819@sms.ed.ac.uk

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The purpose of this research has been explained and my participation is voluntary. I have the right to stop participation at any time without penalty. I understand that the research has no known risks, and I will not be identified. By completing this survey, I am agreeing to participate in this research project.

_____ Date:_____

Age:_____

Sex (Delete as Required):

Male
Female

Occupation: _____

Nationality:_____

Education (Please highlight in bold the highest level of Education Received):
Primary & Secondary/ Third Level/ Post-Graduate Qualification

Rough estimate of your annual income:
_____

Have you been clinically diagnosed with Dyslexia by an educational psychologist using the Welscher Intelligence Scales for Children or Adults (WISC-III, WISA-IV)? Yes / No

SWLS

Below are five statements with which you may agree or disagree. Using a 1 to 7 scale, indicate your agreement with each item by placing the appropriate number in the box next to that item. Please be open and honest in your responses.

The 7 point scale is:

1= Strongly Disagree
2= Disagree
3= Slightly Disagree
4= Neither Agree or Disagree
5= Slightly Agree
6= Agree
7= Strongly Agree

Insert Rating Here:	**Statements:**
	In most ways my life is close to ideal
	The conditions of my life are excellent
	I am satisfied with my life
	So far I have got the important things I want in life
	if I could live my life again, I would change almost nothing

PANAS

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate the appropriate answer next to that word. Indicate, by deleting, circling or marking in bold, to what extent you have felt this way during **the past week**.

	Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**
41. Interested	1	2	3	4	5
42. Distressed	1	2	3	4	5
43. Excited	1	2	3	4	5
44. Upset	1	2	3	4	5
45. Strong	1	2	3	4	5
46. Guilty	1	2	3	4	5
47. Scared	1	2	3	4	5
48. Hostile	1	2	3	4	5
49. Enthusiastic	1	2	3	4	5
50. Proud	1	2	3	4	5
51. Irritable	1	2	3	4	5
52. Alert	1	2	3	4	5
53. Ashamed	1	2	3	4	5
54. Inspired	1	2	3	4	5
55. Nervous	1	2	3	4	5
56. Determined	1	2	3	4	5
57. Attentive	1	2	3	4	5
58. Jittery	1	2	3	4	5
59. Active	1	2	3	4	5
60. Afraid	1	2	3	4	5

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate the appropriate answer next to that word. Indicate, by deleting, circling or marking in bold, to what extent you feel this way **in general**.

	Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**
61. Interested	1	2	3	4	5
62. Distressed	1	2	3	4	5
63. Excited	1	2	3	4	5
64. Upset	1	2	3	4	5
65. Strong	1	2	3	4	5
66. Guilty	1	2	3	4	5
67. Scared	1	2	3	4	5
68. Hostile	1	2	3	4	5
69. Enthusiastic	1	2	3	4	5
70. Proud	1	2	3	4	5
71. Irritable	1	2	3	4	5
72. Alert	1	2	3	4	5
73. Ashamed	1	2	3	4	5
74. Inspired	1	2	3	4	5
75. Nervous	1	2	3	4	5
76. Determined	1	2	3	4	5
77. Attentive	1	2	3	4	5
78. Jittery	1	2	3	4	5
79. Active	1	2	3	4	5
80. Afraid	1	2	3	4	5

Rosenberg SES

Please tick or mark, with an 'x', the appropriate box

Scale Item I:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I feel that I am a person of worth, at least on an equal basis with others				
I feel that I have a number of good qualities				
All in all, I am inclined to feel that I am a failure				

Scale Item II:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I am able to do things as well as most other people				
I feel I do not have much to be proud of				

Scale Item III:

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
I take a positive attitude toward myself				

Scale Item IV:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
On the whole, I am satisfied with myself				

Scale Item V:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
I wish I could have more respect for myself				

Scale Item VI:

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
I certainly feel useless at times				
At times I think I am no good at all				

Mini-Marker

Please use the list of common human traits to describe yourself as accurately as possible. Circle, delete or bold the number on the rating scale to indicate how accurately the trait describes you.

Circle or indicate 1 if trait describes you very inaccurately.
Circle or indicate 2 if the trait describes you inaccurately.
Circle or indicate 3 if the trait describes you neither accurately or inaccurately.
Circle or indicate 4 if the trait describes you accurately.
Circle or indicate 5 if the trait describes you very accurately.

Very inaccurate	**Inaccurate**	**Neutral**	**Accurate**	**Very Accurate**
1	2	3	4	5

		Very Inaccurate	**Inaccurate**	**Neutral**	**Accurate**	**Very accurate**
1	Relaxed	1	2	3	4	5
2	Deep	1	2	3	4	5
3	Creative	1	2	3	4	5
4	Philosophical	1	2	3	4	5
5	Unsympathetic	1	2	3	4	5
6	Temperamental	1	2	3	4	5
7	Energetic	1	2	3	4	5
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9	Talkative	1	2	3	4	5
10	Shy	1	2	3	4	5
11	Harsh	1	2	3	4	5
12	Withdrawn	1	2	3	4	5
13	Imaginative	1	2	3	4	5
14	Organised	1	2	3	4	5
15	Bashful	1	2	3	4	5

16	Careless	1	2	3	4	5
17	Efficient	1	2	3	4	5
18	Complex	1	2	3	4	5
19	Warm	1	2	3	4	5
20	Intellectual	1	2	3	4	5
21	Touchy	1	2	3	4	5
22	Unenvious	1	2	3	4	5
23	Bold	1	2	3	4	5
24	Extraverted	1	2	3	4	5
25	Practical	1	2	3	4	5
26	Disorganised	1	2	3	4	5
27	Unintellectual	1	2	3	4	5
28	Sloppy	1	2	3	4	5
29	Envious	1	2	3	4	5
30	Rude	1	2	3	4	5
31	Fretful	1	2	3	4	5
32	Uncreative	1	2	3	4	5
33	Sympathetic	1	2	3	4	5
34	Quiet	1	2	3	4	5
35	Inefficient	1	2	3	4	5
36	Kind	1	2	3	4	5
37	Jealous	1	2	3	4	5
38	Moody	1	2	3	4	5
39	Systematic	1	2	3	4	5
40	Cold	1	2	3	4	5